(meth)acryloyloxydimethoxythiophenylsulfide and 2-hydroxy-3-(meth)acryloyloxydipropoxythiophenyl-2'-chloro-4'-(meth)acryloyloxy-dimethoxythiophenylsulfide.

Saturated cyclic hydrocarbon compounds:

1, 3-Di(meth)acryloylthiocyclopentane, 1, 4-di(meth)acryloylthio-cyclohexane, 1, 4-di(meth)acryloylthiocycloheptane, 1, 6-di(meth)acryloyl-thiocyclooctane, bis(3-(meth)acryloylthiocyclopentyl)sulfide, bis(4-(meth)acryloylthiocyclohexyl)sulfide, bis(4-(meth)acryloylthio-cycloheptyl)sulfide and bis(5-(meth)acryloylthiocyclooctyl)sulfide.

Unsaturated cyclic hydrocarbon compounds:

Bis(4-(meth)acryloylthio-2-cyclohexen-1-yl)sulfide, bis(4-(meth)acryloylthio-2-cyclopenten-1-yl)sulfide, bis(5-(meth)acryloylthio-2-cyclohepten-1-yl)sulfide and bis(5-(meth)acryloylthio-2-cycloocten-1-yl)sulfide.

Heterocyclic compounds:

Bis(2-(meth)acryloylthienyl)sulfide, bis(3-(meth)acryloylthiopyridyl)-sulfide, bis(5-(meth)acryloylthiopyranyl)sulfide and bis(5-(meth)acryloyl-thio-1, 4-dithianyl)sulfide.

The above-mentioned compounds can be used solely or in combination.

Among the above-mentioned compounds, bis(4-methacryloylthiophenyl)sulfide, bis(4-acryloylthiophenyl)sulfide, bis(4-vinylthiophenyl)sulfide and the like are particularly preferable.

Next, the halogenated cyclic compound [III] is described.

In the general formula [III] of the halogenated cyclic compound, the

circle represents cyclic structure, Y_2 is a ring member atom constituting the ring, and "k" is the number of the constituent atom Y_2 of the ring, namely the member number of the ring. "k" is preferably 5 to 8, more preferably 5 or 6, the most preferably 6. The plural atoms $(Y_2)_k$ can be all carbon atoms (in this case, the ring is a carbon ring), or a portion of the plural atoms $(Y_2)_k$ can be heteroatom(s) such as sulfur atom(s), nitrogen atom(s) and/or oxygen atom(s) and the rest atoms can be carbon atoms (in this case, the ring is a heterocycle). The ring can be saturated or unsaturated, the ring preferably has unsaturated bond(s), and the ring is particularly preferably a benzene ring.

X_4 is a substituent of the ring, at least one of the plural $(X_4)_q$ is halogen and others are hydroxyl or lower alkyl. The substituent X_4 number "q" is 2 to 6.

In the organic group R_5, the radical polymerizable group can be a functional group such as vinyl, (meth)acryloyl or (meth)acryloyloxy. The organic group R_5 having no radical polymerizable group can be lower alkyl having one to five carbon atoms.

In $-(OR)_{n3}-$ of M_5, a carbon number of the lower alkylene R is preferably one to five, more preferably one to three. Examples of OR are oxymethylene, oxyethylene, oxypropylene, oxybutylene and the like. Examples of $(OR)_{n3}$ (n3 is an integer of 2 to 5) are dioxymethylene, dioxyethylene, dioxypropylene, dioxybutylene, trioxymethylene, trioxyethylene, trioxypropylene, trioxybutylene, tetraoxymethylene, tetraoxyethylene, tetraoxypropylene, tetraoxybutylene and the like. When the lower alkylene R has hydroxyl, the hydroxyl can exist at any positions of

the alkylene, and an example of the alkylene having hydroxyl is (2-hydroxy)propylene.

The group (M_5-R_5) number "p" is one to four.

The halogenated cyclic compounds [III], for example trihalophenol-based compounds can be the following compounds.

Compounds having one functional group (acryl, methacryl, vinyl) and two substituents (halogen, hydroxyl, lower alkyl):

2, 4-Dibromophenyl (meth)acrylate, 2, 6-dibromophenyl (meth)acrylate, 4, 6-dichloro-1-vinylbenzene, 2, 4-dibromo-5-ethyl-3-(meth)acryloyloxybenzene, 2, 6-dibromo-3-hydroxyphenyl acrylate, 4, 6-dibromo-2-propyl-1-vinylbenzene, 2, 4-dichloro-3-methylphenyl (meth)acrylate, 2, 6-dibromo-5-hydroxyphenyl (meth)acrylate, 4, 6-dibromo-2-butyl-1-vinylbenzene, 2, 4-dibromophenoxy (meth)acrylate, 2, 6-dibromophenoxy (meth)acrylate, 2, 4-dichloro-3-methylphenoxy (meth)acrylate, 2, 6-dibromo-5-hydroxyphenoxy (meth)acrylate, 2, 6-dichlorophenoxy (meth)acrylate, 2, 4-dibromo-5-ethyl-1, 3-di(meth)acryloylbenzene and 2, 6-dichloro-3-hydroxyphenoxy (meth)acrylate.

Compounds having one functional group (acryl, methacryl, vinyl) and three substituents (halogen, hydroxyl, lower alkyl):

2, 4, 6-Tribromophenyl (meth)acrylate, 2, 4, 6-trichloro-1-vinylbenzene, 2, 4, 6-tribromophenoxyethyl (meth)acrylate, 2, 3, 6-tribromophenyl (meth)acrylate, 2, 5, 6-tribromophenyl (meth)acrylate, 2, 4, 5-trichloro-1-vinylbenzene, 2, 4, 6-tribromophenoxydiethylene glycol (meth)acrylate, 2, 4, 6-tribromophenoxytriethylene glycol (meth)acrylate, 2,